

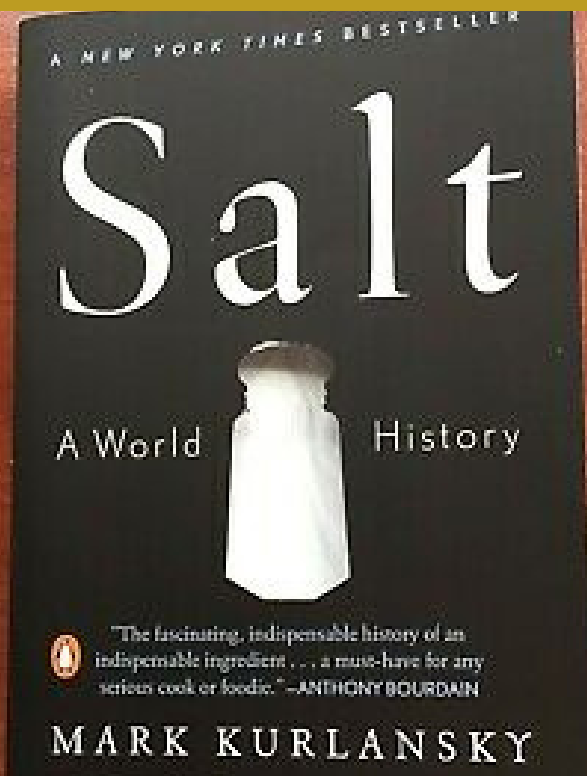
THE SALT REPORT

Part of what I love about my job here at The Market Mindset is learning about the fascinating histories behind the valuable commodities we invest in today. Take salt for example; it's amazing how this simple food additive has shaped the world. Salt has been a valuable commodity since ancient times.

In the past, salt mines were considered as valuable as gold mines and the consumption of salt was vital for those who lived in the desert. People went to war over salt, and it was commonly used as currency. Just think of how many different types of salt there are: Himalayan, table, fleur de sel, rock salt, solar salt, brine, just to name a few. Salt is indispensable for the normal functioning of the human body, and is a key ingredient in manufacturing and chemical processing.



THE HISTORY OF SALT



The History of Salt by Mark Kurlansky is a fantastic, thoroughly researched book that walks the reader through the history, economics, chemistry, and politics of this everyday mineral. The book explores how household table salt influenced human civilization over centuries and precipitated the rise and fall of empires.

The Celts became very wealthy by trading salt and salted goods, including salt-cured ham. Deriving their name from the Greek word “hal” which means salt, Greek and Roman historians described the Celts as huge, terrifying men in bright fabrics.

The Druids, who were the guardians of their culture, did not keep written records, so we know very little about them. But we do know they thrived on salt. Kurlansky mentions that Homer referred to salt as a “divine substance,” and Plato described it as “especially dear to the gods.”

It’s remarkable to learn how commodities have played such a pivotal role in human history, and I would highly recommend this book, but let’s move on and take a look at the role salt plays in today’s society, and the reasons we are paying attention to one company in particular.

Salt demand is on the rise

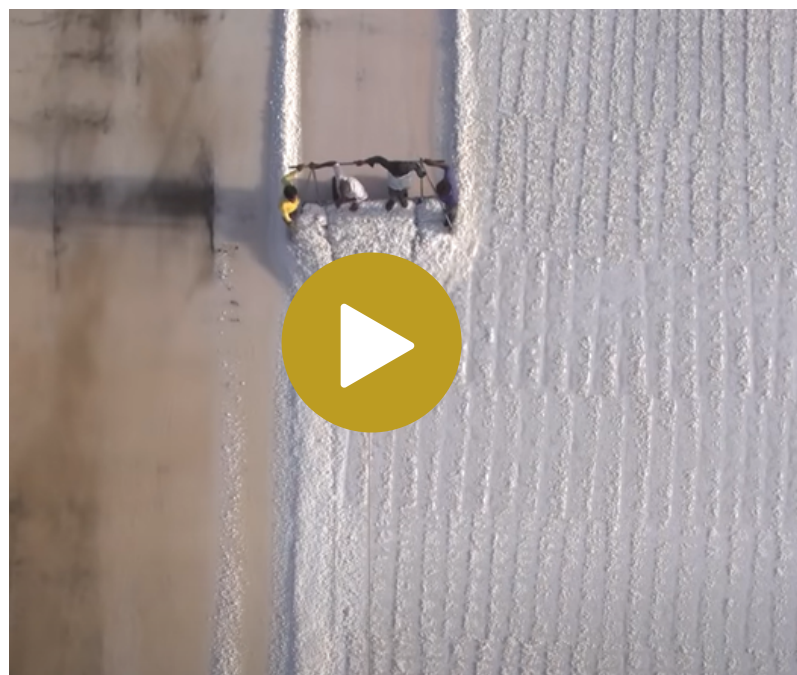
When it comes to investing in commodities, salt may not be the first thing that comes to mind, but it’s gaining serious traction. In addition to the salt we consume, demand for industrial salt is skyrocketing. Also known as sodium chloride, industrial salt is extracted from rock salt or sea water and is purified and blended with additives according to the requirement of the specific application.

The global industrial salt market is predicted to reach USD 16.67 billion by 2027 with a steady growth rate of more than 2.4% over the forecast period 2021–2027. This market is primarily driven by the growing wastewater treatment industry and end-user applications including chemical processing, water treatment, de-icing, agriculture, oil and gas, among others. According to Statista, the global water and wastewater market was valued at USD 263.07 billion in 2020 and is projected to reach a value of almost USD 500 billion by 2028 at a CAGR of 7.3%.

Industrial salt market growth is also escalating due to increased demand for clean water because it plays a central role in the water softening process. It’s also used as a source of chlorine in the treatment of drinking water and swimming pools.

Asia Pacific is the global market leader owing to growing demand from chemical processing industries, and this region is anticipated to exhibit the highest growth rate over the forecast period of 2021–2027. Ongoing wastewater treatment projects in countries like India will continue to create lucrative growth prospects for the industrial salt market.

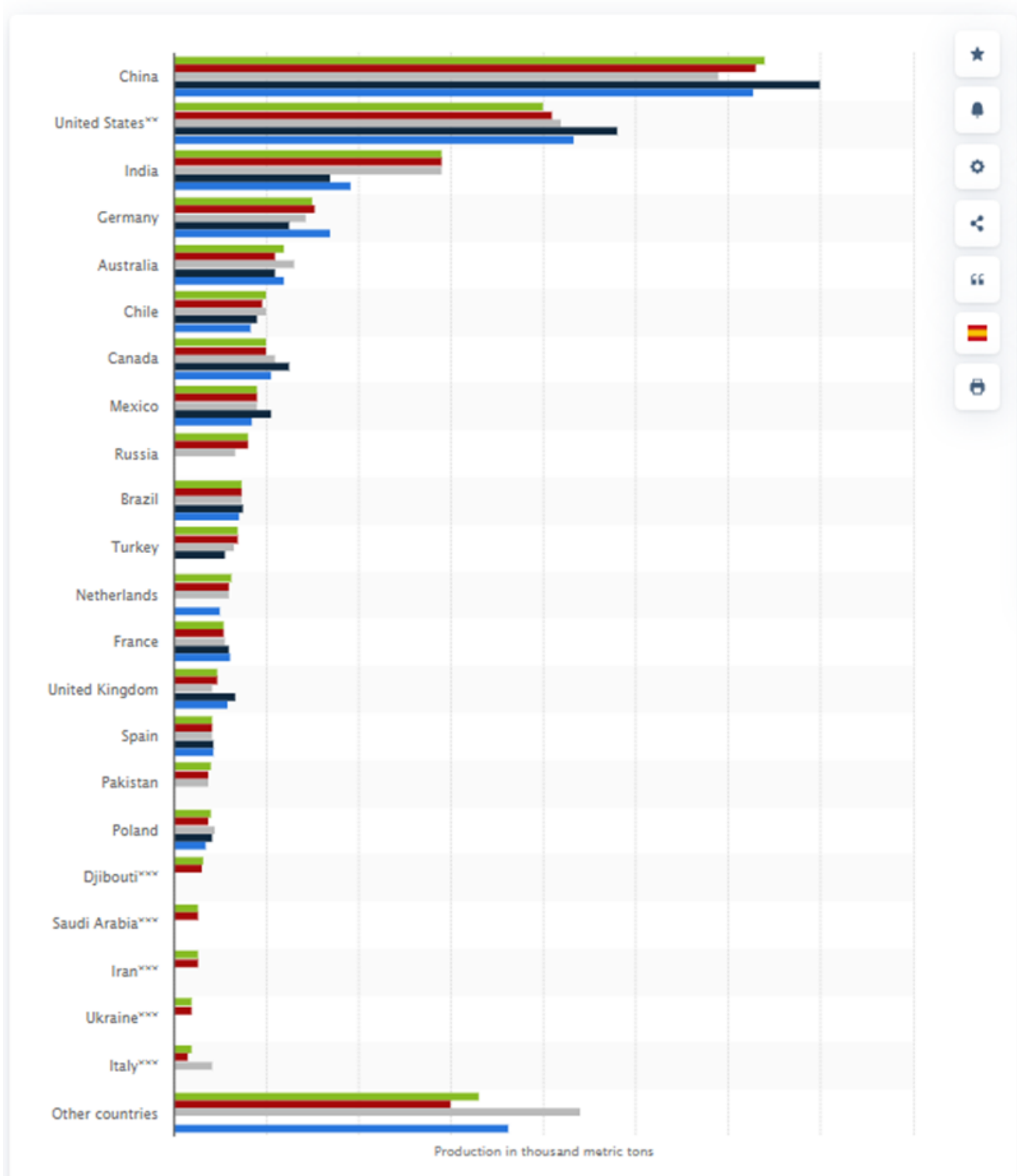
Speaking of India, there are some interesting salt videos on YouTube including one from Business Insider that offers an Indian perspective, titled: [Why Salt Farmers Risk Their Lives To Harvest Desert Salt For \\$4 a Ton](#). India is one of the world’s top salt producers, and most of India’s salt comes from the desert of the Little Rann of Kutch where the Agariya people do the dangerous job of salt farming.



Why Salt Farmers Risk Their Lives To Harvest Desert Salt For \$4 a Ton

In addition to India, China and the U.S. are among the world’s top salt producers. Let’s take a look:

Major countries in salt production worldwide from 2010 to 2021 (in 1,000 metric tons)



Why all the fuss about salt? There are a few reasons.

It's been a staple of the human diet throughout history

The most obvious use for salt is in our food. Only 17% of the salt we consume is found naturally in food, and the rest comes from processing and the salt we add. Salt is used unanimously across cultures to cure or season dishes. It also has cultural and religious significance, used in Shintoism to purify things and by Buddhists to repel evil. In Judeo-Christian traditions, salt was used to purify people and objects, as an offering, and to seal covenants.

We all love salt, even if we don't realize it. For example, did you know that soda contains an enormous amount of salt? Disguised by the sweet taste of sugar, this nefarious trick prompts consumers to drink more of it. Our desire for salt could very well be based in biology as Mark Kurlansky suggests in his book; our blood, sweat, and tears are made of salt. Though sodium gets a bad rap these days, some sodium is good for our health, helping to regulate blood pressure while contributing to muscle and nerve health.

Salt has been used for thousands of years to preserve food including meat and dairy products. In processed meats, salt acts as a binder, controls the colour, and improves the tenderness. In bread, it strengthens gluten in the dough and provides uniform grain, texture, and strength, allowing the dough to expand without tearing. It develops rind hardness and even consistency in cheese.



We use it in our daily lives

Beyond the culinary world, us Canadians also understand the role salt plays in keeping highways, driveways, pathways, and walkways safe for vehicles and pedestrians. According to Environment Canada, we use about seven million tonnes of salt per year for this purpose.

Cargill, one of the world's largest global food corporations, lists 14,000 uses for salt, many of which you wouldn't expect. Salt sets the dye in fabric and is used to produce glass, polyester, plastics, and leather. Salt assists in cleaning gas and oil wells, and is an essential component in manufacturing paper, tires, brass, bleach, and case-hardened steel.

Industrial salt is also used in oil drilling to make it safer and more efficient. It can be added to mud to create drilling fluid which acts as a lubricant and coolant for the drilling head. Salt applications in the oil industry also include flocculants, diverting agents, acidizing specialty additives, thinners/dispersants, and stabilizers.

It's a building block in the chemical industry

Salt is an essential building block in the chemical industry, used in the synthesis of more than 50% of chemical products. The chemical industry is by far the largest consumer of salt accounting for nearly 60%, and demand has been steadily increasing ever since the industrial revolution.



Industrial salt is frequently used as a raw material in the production of chlorine, caustic soda, and soda ash. Aside from these, industrial salt is used to make sodium sulfate, sodium carbonate, hydrochloric acid, sodium bicarbonate, liquid sodium, metallic sodium, chlorine, and sodium nitrate, among other things. Furthermore, industrial salts are actively used in the chlor alkali process to manufacture products such as ethylene dichloride, which is stimulating demand for industrial salts due to a lack of cost-effective substitutes.

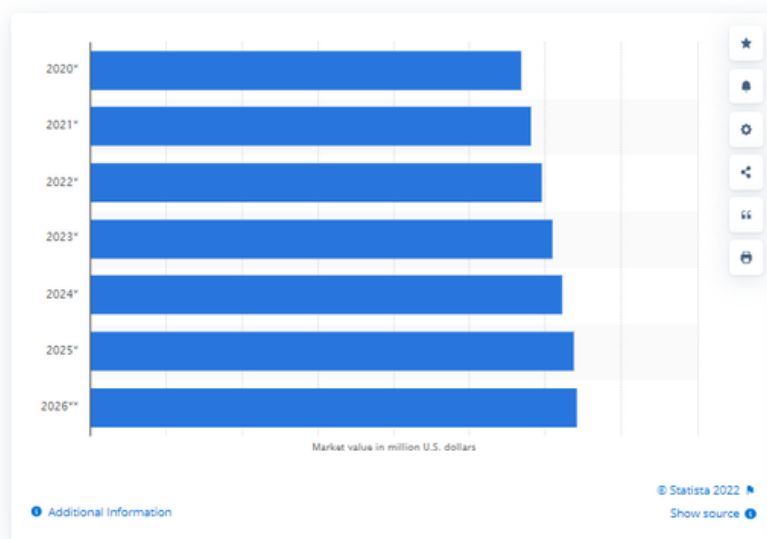
We need it to treat our water

Salt is necessary for our water softeners to function. Water softeners contains resins in the form of small beads that remove lime from water by exchanging calcium ions with sodium ions. Hard water percolates through the resin bed, emerging as soft water from the appliance.

These resins are gradually saturated with calcium ions and become less and less efficient, depending on water consumption. Their efficiency is regenerated using salt water (brine) obtained from water softener tablets. During this process, known as regeneration, calcium ions that are fixed on the resins are exchanged with sodium ions. Benefits include less energy used by heaters, lower detergent consumption, and extended fabric life.

Many people may not realize that the electrolysis of sodium chloride solution produces sodium hypochlorite (bleach), a powerful disinfectant mainly used in swimming pools. After destroying bacteria and micro-organisms in the water, the active chlorine is naturally converted back to salt through the effect of UV radiation. Another use for salt is that of a de-scaler agent that prevents buildup in pipes.

Salt market value worldwide from 2020 to 2025
(in million U.S. dollars)



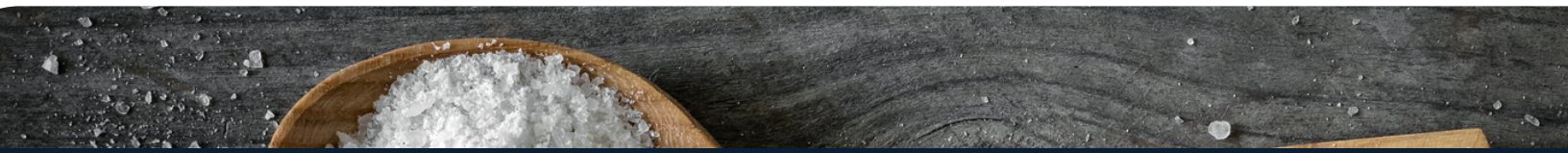
The salt market boom is primarily driven by the growing wastewater treatment industry and end user applications including chemical processing, water treatment, de-icing, agriculture, oil and gas, among others.

Major domestic salt producers

Now that we understand how heavily our modern society depends on salt, let's take a look at salt production across Canada and the U.S.

The Canadian landscape

One company that I'm really excited about is Atlas Salt (TSX: SALT) who owns 100% of North America's premier undeveloped salt project. The project, known as the Great Atlantic, is strategically located on the coast of Newfoundland, one of the world's friendliest mining jurisdictions. Atlas Salt is currently at the feasibility stage and joins Compass Minerals in being the only two publicly traded salt companies in North America.



The Great Atlantic is a shallow mine with 30 kms of salt that is easily obtainable with no need for shafts. It is the first salt deposit in North America that will be accessed through low-cost inclined ramps when in production. Salt will be lifted from a conveyor and loaded onto trucks for transport to the Turf Point port located 3.5 kms from the project. The project will produce no metallurgy, no acids, and no environmental impact from tailings.

With multiple near-term catalysts in a sector that has featured USD \$5.2 billion in acquisitions by private equity since 2020, now is the time to take a look at Atlas Salt. The company is considered a low-cost disrupter that could produce for decades, operating like a virtual "Salt Factory." As a highly efficient, low-cost, and scalable decades-long producer, the Great Atlantic will significantly reduce reliance on overseas imports. At the helm is company President Rowland Howe who has so much industry knowledge and experience, he is widely regarded as "Mr. Salt."

Other considerations that bode well for Atlas Salt include:

- Price stability – the salt price has compounded at 4% CAGR over the past 16 years
- Supply insecurity – North America faces an annual road salt production shortfall of 7 to 10 million tonnes and ~30% of supply is imported
- Strategic location – favourable jurisdiction coupled with multiple logistical advantages
- Low risk – a large, homogeneous, high-grade deposit presenting low geological, geotechnical, and development risks
- Atlas Salt has an attractive share structure with 79 million shares outstanding and a strong treasury
- There's potential for a clean energy hub adjacent to Great Atlantic and a near-term spinout of these assets will further drive shareholder value



Atlas Salt's Great Atlantic is North America's premier undeveloped salt project

In Ontario, there's Sifto Canada, now under parent company [Compass Minerals](#) (NYSE: CMP) that owns the largest underground salt mine in the world. Located 1,800 feet under Lake Huron, the Goderich salt mine is as deep as the CN Tower is tall and has been in operation since 1959.

Discovered unexpectedly while drilling for oil, the mine's salt is shipped to hundreds of communities around the Great Lakes and along the St. Lawrence Seaway. Some of the salt is trucked to the Compass Minerals plant less than 4 kms away, to be packaged for distribution and sale at retailers in North America. The salt is also sold in bulk to manufacturers that make plastics, detergents, disinfectants and other important products.

Also in Canada, [Windsor Salt](#) is a salt mining, processing, and distribution company based in Pointe-Claire, Québec that provides over 200 evaporated and rock salt products. Products are used in household and food products, as well as for agricultural, water softening, and industrial purposes. Products made from mined rock salt are sold to household and industrial markets for ice control, and to the water softening and general industrial trades. Government agencies are among the largest users of the company's products for highway ice control.



In 2008, more than 9.5 megatonnes of salt was mined from the Windsor Salt Mine.

Windsor Salt operates the Windsor Salt Pugwash Mine which is currently booming, producing bulk and packaged de-icing salts that are used in Québec, New Brunswick, Newfoundland, and Nova Scotia. In 2018, Halifax regional council approved a five-year agreement to buy rock salt from Windsor Salt.

The company also operates the Windsor Salt Mine that produces road and mining salt along with salt for human consumption, water softening, and agriculture. In 2008, more than 9.5 megatonnes of salt was mined, 85% of which went to de-icing highways, and the remainder for manufacturing caustic soda and chlorine, producing pulp and paper, and water treatment.

Other Canadian underground salt mines include the [Mines Seleine](#) in Gross Ile Québec operated by the Morton Salt division of K+S Group, and two mines located in Saskatchewan operated by [Nutrien](#) for salt recovery from potash tailings.



The U.S. landscape

According to the U.S. Geological Survey's 2019 Mineral Commodity Summary, salt used for agricultural and food processing only accounts for 3% of the salt sold or used across the U.S. Rock salt used for highway de-icing accounts for about 43%, and the chemical industry accounts for about 39% of total salt sales. Industrial salt uses include snow and ice removal, setting the dyes in fabric, cleaning gas and oil wells, and producing thousands of products including glass, polyester, plastics, leather, paper, tires, bleach, among others.

The U.S. is the second largest salt producer in the world, following closely behind China. More than 24 million tons of salt are produced annually, of which about three-fourths is produced as brine or by evaporation of salt water and one-fourth as rock salt. Salt mines occur in clusters in the Detroit-Windsor area, Upstate New York near Syracuse, the Cleveland area, central Kansas near Hutchinson, and along the Louisiana coastline.

Here is a run down of the underground salt mines operating in the U.S.:

Cargill Salt Mine, Avery Island, Louisiana, 1,300 feet deep – operated by [Cargill](#)

Cargill Salt Mine, Cleveland, Ohio, 1,800 feet deep and covering almost four-square miles under Lake Erie near downtown Cleveland – operated by [Cargill](#)

Detroit Salt Mine, Detroit, Michigan, 1,160 feet deep – currently operated by the Kissner Group, who was bought out by [Stone Canyon Holdings](#) in 2020

Morton Salt Mine, Fairport, Ohio, 2,000 feet deep – extends beneath Lake Erie – operated by the [Morton Salt division of K+S Group](#)

Morton Salt Mine, Grand Saline, Texas – 750 feet deep – operated by the [Morton Salt division of K+S Group](#)



Cote Blanche Mine, Franklin, Louisiana, 1,500 feet deep – operated by [Compass Minerals](#)

Hockley, Texas – approximately 1,525 feet deep – operated by [United Salt Corporation](#)

Hutchinson, Kansas – 650 feet below the surface – operated by [Hutchinson Salt Company](#)

Kanopolis, Kansas – 840 feet deep – operated by [Independent Salt Company](#)

Cayuga Salt Mine, Lansing, New York – extends under Cayuga Lake. The deepest underground salt mine in North America at 2,300 feet – operated by [Cargill](#)

Lyons, Kansas – approximately 1,000 feet deep – currently operated by the Kissner Group, who was bought out by [Stone Canyon Holdings](#) in 2020

Hampton Corners Salt Mine, Mt. Morris, New York – more than 1,200 feet deep – operated by the [American Rock Salt Company](#)

Weeks Island, Louisiana – approximately 1,440 feet below the surface – operated by the [Morton Salt division of K+S Group](#)

Vendors worth their salt

In analyzing the salt marketplace, we can't forget about vendors. Here is a roundup of major players across North America, South America, Middle East and Africa, Asia and Pacific region:

Key vendors

[Cargill](#)

[China National Salt Industry Group Co. Ltd](#)

[Compass Minerals](#)

[INEOS Group](#)

[K+S Salt LLC](#)

[Tata Chemicals Limited](#)

Other prominent vendors

[American Rock Salt](#)

[Amra Salt](#)

[Atisale SpA](#)

[Avan Salt Plant](#)

[CIECH Group](#)

[Delmon Group of Companies](#)

[Donald Brown Group](#)

[Ibrica de Sales S.A.](#)

[Mitsui & Co. Ltd.](#)

[Nouryan](#)

[Rio Tinto](#)

[Salins Group](#)

[Swiss Saltworks](#)

[Wilson Salt Limited](#)

[Zoutman](#)



Wow, that's a lot to digest! (no pun intended). While salt may not be the sexiest commodity, the forecasted market growth and CAGR along with major producers operating across Canada and the U.S. make it worth a second glance from an investment standpoint. Some might say the salt rush is on, and investors and industry experts alike will be watching to see how this scenario unfolds over the next few years.



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